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SOME RECENT CHANGES IN THE NOMENCLATURE
OF WEST INDIAN CORALS.

BY T. WAYLAND VAUGHAN.

The nomenclature of the West Indian stony corals has for many years been what may best be called traditional. Between the times of the publication of the last volume of Milne Edwards and Haime's great work "Histoire Naturelle des Coralliaires" in 1860, and Brook's Catalogue of the species of the Genus *Madrepora** there were only slight changes. Brook proposed one change of considerable moment in uniting the various species of *Madrepora* (Lamarek) from the West Indies under one specific name, *muricata* of Linnaeus. Gregory in his "Contribution to the Geology and Physical Geography of the West Indies"† proposed other changes.

When I took up the study of these corals, I soon saw that the nomenclature was in great confusion, many names not being supported by the simpler rules of nomenclature now universally accepted. In two papers, "Some Fossil Corals from the Elevated Reefs of Curaçao, Arube and Bonaire",‡ and "The Stony

*Catalogue of Madreporarian Corals in the British Museum (Natural History), Vol. I, Genus *Madrepora*, 1893.

†Quart. Jour. Geol. Soc. of Lond., LI, pp. 255-310, pl. xi, 1895.

‡Samml. Geologisch. Reichs-Museum, Leiden. Ser. II, Bd. II, Heft I, pp. 1-91, June, 1901.

Corals of the Porto Rican Waters",* I attempted to determine the proper names so far as the material included in those reports seemed to justify, and made many changes. Prof. A. E. Verrill has written an extremely valuable paper, "Variations and Nomenclature of Bermudian, West Indian, and Brazilian Reef Corals, with Notes on Various Indo-Pacific Corals", † now appearing, treating of the same subject. In this paper some additional changes are made. In the paper just mentioned and in a review of my "Stony Corals of the Porto Rican Waters", ‡ Prof. Verrill has given reasons for dissenting from some of the conclusions reached by myself, and as we had had an extended correspondence concerning the differences between us, he inserted a foot-note stating wherein I agreed with him after further consideration.

Too many changes have been made in the nomenclature for all of them to be reviewed here, but as it seems desirable that the following additional data, largely of a bibliographic nature, be laid before the students of stony corals the following notes have been prepared. The names discussed are those used by Prof. Verrill in his memoir cited above and in his review of my Porto Rican corals in place of the ones used by myself. In tabulating the following notes the name employed by Prof. Verrill is placed first, *versus* the one employed by myself, which is placed second. Five cases are discussed, in three of which Prof. Verrill and I agree, but in the remaining two we still hold different opinions.

1. *Acropora*, Oken, 1815, versus *Isopora*, Studer, 1878. I overlooked the availability of Oken's *Acropora*, for the Lamarckian, not Linnean, *Madrepora*. Prof. Verrill is correct, *Acropora* is the proper generic name.

2. *Maeandra*, 1815, versus *Platygyra*, 1834, *Manicina* (*areolata* as type), 1834, and *Diploria*, 1848. I selected as the type of *Maeandra* the species figured by Oken, the *mæandrites* of

*U. S. Fish Commission, Bulletin for 1900, II, pp. 289-320, pls. i to xxxviii, Dec. 13, 1901.

†Trans. Conn. Acad. Sci., XI, pp. 63-160 [my copy dated by Prof. Verrill, Dec. 14, 1901], pp. 161-168 [not published on Jan. 15, 1902. I have advance proof kindly sent me by Prof. Verrill], plates x-xxxv [not published Jan. 15, 1902]. Prof. Verrill sends me the completed memoir, dated by himself Jan. 22, 1902.

‡Am. Jour. Sci. 4th Ser., XIII, pp. 75-78, January, 1902.

Linnaeus. In this I must admit having committed an error, as Ehrenberg, 1834, restricted *Maeandra*, dividing it into two subgenera *Platygyra* and *Dendrogyra*. Only one of Oken's original species, the *labyrinthica*, from the Red Sea, was included under *Maeandra*, and that in the subgenus *Platygyra*, thus making the Red Sea form the genotype, and causing *Platygyra* to be a synonym of *Maeandra*. There is sometimes apparent disagreement between Prof. Verrill and myself where there is in reality agreement. I had clearly recognized the extremely close relationship of *Diploria*, *Manicina* (auct.) and *Maeandrina* M. Edw. & H. (non Lamarek, 1801) and had thought of combining them as one genus, especially *Diploria* and *Manicina* (auct.), but did not consider the data at my disposal quite sufficient to warrant such action; but, probably, I would have united them in my next publication, as Prof. Verrill has done.

3. *Maeandra cerebrum* (Ellis & Solander, 1786) versus *Maeandra viridus* (LeS., 1820). I discarded the *Madrepora cerebrum* of Ellis and Solander as being unidentifiable, particularly as no locality is given. If the West Indies had been named as the locality, I would be strongly inclined to adopt the name, as the description is almost the same as that of *Madrepora labyrinthica*, which is from the West Indies (the latter name is peroccupied, Pallas, 1766, and is not available). As Ellis and Solander had given a name to the West Indian species, it seems probable that the other species may have come from another locality, for instance, the Red Sea. I do not see how a valid argument as to what was meant could be drawn from the use of the specific name *cerebrum*, because Ellis and Solander may have given the name of themselves, or natives, of other parts of the world may call similar coral "brainstone". In my opinion the evidence is not sufficient for the identification of *cerebrum*.

Concerning *viridis* LeSueur, described as a variety of *Meandrina sinuosa*? Ellis & Sol., I remark that it is easy to identify LeSueur's *sinuosa* (not of Ellis & Solander). LeSueur divided the species, chiefly on the basis of color, into varieties, which he himself evidently did not consider of specific value. The possible species from his descriptions, are limited to two, the one that I claim he meant, and *clivosa* of Ellis and Solander.

The latter species is characterized by having nodules over its surface, and as LeSueur was an acute observer he could reasonably be expected to have noticed them unless his specimens were very young, but he says nothing from which one would draw such an inference. But in addition to the descriptions, figures are given by LeSueur and these are characteristic of the species that I insist he meant,* and according to my experience of no other. Figure 5*b* is a cross-section of three collines. I have examined specimens of *clivosa* but found no such collines, whereas they are characteristic of a common variety of what I am calling *viridis*.† I see no room for doubting the correctness of my identification. Prof. Verrill in the review has not considered that LeSueur attached the name *viridis* in a varietal sense to a species, and has neglected to make remarks on the figures. I did not use the green color as an aid in identification, in fact I have never alluded to the color of corals in any paper that I have published.

4. *Orbicella annularis* (Ell. & Sol.) versus *O. acropora*, (Linn.). I used Esper's work in identifying the *acropora* of Linnæus. Esper's figure is good, and he states that "Sie kommen aus den südlichen amerikanischen Meeren". But as Ellis and Solander had in the interval between Linnaeus and Esper given a definite name to the species, I admit that it is better to use *annularis* Ell. & Sol., instead of *acropora* Linn. (Esper).

5. *Porites polymorpha* Link, 1807, versus *P. porites* (Pallas, 1766).

The *Madrepora porites* of Pallas, as all admit, included several species. Prof. Verrill states that Esper eliminated *M. conglomerata* and *M. arenosa*, but he does not give the use made by that author of *Madrepora porites*. I regret that I did not publish the full synonymy of the species, for that would have shown that the name can be applied only as I have used it, or even in a more restricted sense. The *Madrepora porites* Esper pl. xxi, is what I have called *Porites porites*. However Ellis and Solander, 1786, figured *Madrepora porites*, the *clavaria* of Lamarck, and restricted the name to a particular *forma*

*Mem. Mus. Hist. Nat. Paris, VI, p. 279, 1820.

†Attention is especially directed to pl. xiv, figs. 2 and 5, also pl. xii, fig. 4, of the memoir of Prof. Verrill, previously cited. Pl. xiv, fig. 2 represents a variety of *clivosa*, the other figures *viridis* (*cerebrum* Verrill).

of the West Indian branching *Porites* even before Esper. The references given by Pallas show that he included the West Indian species.

The following synonymy will give a history of the restriction of the name

Porites porites (Pallas).

- 1756. *Corallium, poris stellatis*, etc. Seba, Thesaurus, CXI, p. 202, pl. cix, fig. 11 (referred to by Pallas and subsequent authors), 1756.
- 1766. *Madrepora porites* (pars) Pallas, Elench. Zooph., p. 324, 1766.
- 1767. *Madrepora porites* (pars) Linnaeus, Syst. Nat., ed. XII, p. 1279, 1767.
- 1786. *Madrepora porites* Ellis & Solander, Nat. Hist. Zooph., p. 172, pl. xlvii, fig. 2, 1786.
- 1790. *Madrepora porites* (pars) Gmelin, Linn. Syst. Nat. Ed. XIII, p. 3774, 1790.
- 1791. *Madrepora porites* Esper, Pflanzenth, Th. I, p. 133, Madr. pl. xxi, 1791.
- 1807. *Porites polymorphus* (pars) Link, Beschreib, Natur, Samml. Rostock, p. 163, 1807.
- 1816. *Porites clavaria* Lamarck, Hist. Nat. Anim. sans. Vert., II, p. 270, 1816.
- 1901. *Porites porites* Vaughan, Samml. Geol. Reichs-Mus. Leiden, 2nd Ser. II, p. 73, 1901.
- 1901. *Porites porites* Vaughan, Bull. U. S. Fish Comm. for 1900, II, pp. 314-316, pls. xxviii-xxxI, 1901.
- 1901. *Porites polymorpha* Verrill, Trans. Conn. Acad. Sci., XI, p. 158 (pl. xxxi, figs. 3, 3a, not yet published), 1901.
- 1901. *Porites polymorpha* Verrill, Am. Jour. Sci., 4th Ser. XIII, p. 77, 1901.

Linnaeus in the twelfth edition of his *Systema Naturae* (1767) described the species as "*M[adreporea] subramosa composita*

scabra, poris substellatis confertis," thus limiting the name to the branching forms, and eliminating such species as *Porites astreoides* and *Rhodaræa calycularis*. Ellis and Solander, 1786, figured typical *Clavaria* under the name *Madrepora porites*, describing it as "*Madrepora ramulosa, ramis clavato-complanatis, stellis contiguis (lamellarum loco) cuspidato-tuberculatis*." This completely restricts the specific name *porites*.

Link (1807) used *polymorphus* for *Madrepora porites*, Gmel., Syst. Nat. ed. XIII, p. 3774; Esper, Th. 1, *Madrepora*, pl. xxi; and *Madrepora damicornis*, Gmel., Syst. Nat. ed. XIII, p. 3775; Esper, Th. I, *Madrepora* pl. xlvi. His only specific description is contained in the words "Vielgestalte *P[orites]*." He confused two species, and I do not see how his name can be used at all for any species as it is a renaming of *Madrepora porites*, as used by Linnaeus, *damicornis*. The name is not proposed for a part of *porites*. As shown above, the name *porites* had been definitely restricted twenty-one years previously by Ellis and Solander.

Lamarek (1816) describes *Porites clavaria* in words quite similar to those of Ellis and Solander. To illustrate his species, he refers to pl. xlvii, fig. 1, of Ellis and Solander and Vol. I, pl. xxi, of Esper, each figure being designated *Madrepora porites* by the respective author of the work in which it was published. Ellis and Solander confused nothing else with their one species, therefore *Porites clavaria* of Lamarek is a precise synonym of *Madrepora porites* Pallas, restricted by Ellis and Solander.

Considering the extremely complex synonymies with which we have had to deal and the great difficulties encountered in the material itself in studying corals, it is extremely gratifying to me that the differences between Prof. Verrill and myself are so slight, being comparatively trivial. The paper by Prof. Verrill, to which both he and I have referred, is an admirable contribution to our knowledge of corals. I find in it very little from which I dissent; in actual ideas we are in agreement almost completely.